EXHIBIT O

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NOTICE OF ALLOWANCE AND FEE(S) DUE

26111 7590 11/08/2019 STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C. 1100 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005 EXAMINER
HUGHES, DEANDRA M

ART UNIT PAPER NUMBER
3992

DATE MAILED: 11/08/2019

	APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
•	16/023 183	06/29/2018	Jeffrey P. WILDE	3564 015REI0	3621

TITLE OF INVENTION: RECONFIGURABLE OPTICAL ADD-DROP MULTIPLEXERS WITH SERVO CONTROL AND DYNAMIC SPECTRAL POWER MANAGEMENT CAPABILITIES

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1000	\$0.00	\$0.00	\$1000	02/10/2020

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

		PART I	B - FEE(S) TRA	NSMITTAL			
Complete and send t	his form, together v	vith applicable fee(s), by mail or fax,	or via EFS-Web.			
By mail, send to: Mail Stop ISSUE FEE Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450				By fax, send to: (571)-273-288			
further correspondence in	icluding the Patent, adva	ace orders and notificatio	n of maintenance fees	will be mailed to the cu	ks 1 through 5 should be comprent correspondence address e "FEE ADDRESS" for main	as indicated unless correcte	
²⁶¹¹¹ STERNE, KES	RK AVENUE, N.W.	⁷²⁰¹⁹ EIN & FOX P.L.L	C.	Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission. Certificate of Mailing or Transmission I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below			
						(Typed or printed name	
						(Signature	
						(Date	
APPLICATION NO.	FILING DATE		FIRST NAMED INVEN	ITOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
16/023,183	06/29/2018	•	Jeffrey P. WILD	DE 3564.015REI0		3621	
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APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE	DUE PREV. PAID ISSU	JE FEE TOTAL FEE(S) DUE	E DATE DUE	
nonprovisional	UNDISCOUNTED	\$1000	\$0.00	\$0.00	\$1000	02/10/2020	
EXAM	INER	ART UNIT	CLASS-SUBCLAS	S			
HUGHES, DI	EANDRA M	3992	385-024000				
Address form PTO/SE "Fee Address" indi	ondence address (or Cha	nge of Correspondence Indication form PTO/	(1) The names of or agents OR, alte (2) The name of a registered attorner	single firm (having as or agent) and the nan tattorneys or agents. If	nt attorneys 1 a member a nes of up to 2		
3. ASSIGNEE NAME A	ND RESIDENCE DATA	TO BE PRINTED ON	THE PATENT (print	or type)			
PLEASE NOTE: Unle recorded, or filed for r (A) NAME OF ASSION	ecordation, as set forth is	ed below, no assignee dat n 37 CFR 3.11 and 37 CF	FR 3.81(a). Completion	atent. If an assignee is it on of this form is NOT :	dentified below, the documen a substitute for filing an assig COUNTRY)	t must have been previously ament.	
Please check the appropriate. 4a. Fees submitted: 4b. Method of Payment: Electronic Payment	iate assignee category or ☐Issue Fee ☐Pub (Please first reapply any at via EFS-Web ☐	lication Fee (if required) previously paid fee show	rinted on the patent): Advance Ord on above) Non-electronic payme	☐ Individual ☐ Corporer - # of Copies	oration or other private group h form PTO-2038)	entity 🗖 Government	
	, to enarge	1-2-1-20(5), 3119		у гу со Бор			
Applicant asserting	tus (from status indicate ag micro entity status. Se g small entity status. See g to regular undiscounted	e 37 CFR 1.29 37 CFR 1.27	fee payment in the n <u>NOTE</u> : If the application to be a notification of	nicro entity amount will ation was previously un floss of entitlement to is box will be taken to b	o Entity Status (see forms PTo I not be accepted at the risk of ider micro entity status, check micro entity status. be a notification of loss of enti	application abandonment. ing this box will be taken	

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _

Typed or printed name

Date _

Registration No.

United States Patent and Trademark Office



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.		
16/023,183	16/023,183 06/29/2018 Jeffrey P. WILDE		3564.015REI0 3621			
26111 75	90 11/08/2019		EXAMINER			
·	ERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.			HUGHES, DEANDRA M		
1100 NEW YORK WASHINGTON, I	,		ART UNIT	PAPER NUMBER		
	, – – – – – – – – – – – – – – – – – – –		3992			
		DATE MAILED: 11/08/2019				

Determination of Patent Term Extension or Adjustment under 35 U.S.C. 154 (b)

A reissue patent is for "the unexpired part of the term of the original patent." See 35 U.S.C. 251. Accordingly, the above-identified reissue application is not eligible for Patent Term Extension or Adjustment under 35 U.S.C. 154(b).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b) (2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

- 1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
- 2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
- 3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
- 4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
- 5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
- 6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
- 7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
- 8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
- 9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

	Application No. 16/023,183	Applicant(s) WILDE et al.						
Notice of Allowability	Examiner DEANDRA M HUGHES	Art Unit 3992	AIA (FITF) Status No					
The MAILING DATE of this communication appears on the cover sheet with the correspondence address All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.								
 1. This communication is responsive to 10/23/19. ☐ A declaration(s)/affidavit(s) under 37 CFR 1.130(b) was/ 	were filed on							
	2. An election was made by the applicant in response to a restriction requirement set forth during the interview on; the restriction requirement and election have been incorporated into this action.							
3. The allowed claim(s) is/are 68-139. As a result of the allowed claim(s), you may be eligible to benefit from the Patent Prosecution Highway program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.								
4. Acknowledgment is made of a claim for foreign priority under Certified copies: a) All b) Some *c) None of the: 1. Certified copies of the priority documents have 2. Certified copies of the priority documents have 3. Copies of the certified copies of the priority documents have International Bureau (PCT Rule 17.2(a)). * Certified copies not received:	e been received. e been received in Application No cuments have been received in this of this communication to file a reply ENT of this application. be submitted. Amendment / Comment or in the Off 84(c)) should be written on the drawing ader according to 37 CFR 1.121(d). IOLOGICAL MATERIAL must be su	national stage complying with ffice action of ngs in the front bmitted. Note the	h the requirements (not the back) of each					
Attachment(s) 1. Notice of References Cited (PTO-892) 2. Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 3. Examiner's Comment Regarding Requirement for Deposit of Biological Material 4. Interview Summary (PTO-413), Paper No./Mail Date. /DEANDRA M HUGHES/ Reexamination Specialist, Art Unit 3992	5. ☐ Examiner's Amend 6. ☑ Examiner's Statem 7. ☐ Other							

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NOTICE OF ALLOWANCE

Acknowledgements

- 1. This notice of allowance addresses reissue U.S. Application No. 16/023,183 ("instant application" or "R3") filed on Jun. 29, 2018, which is a reissue application of U.S. Patent No. RE42,678E ("'678 Patent" or "R2") issued Sep. 6, 2011.
- 2. R2 was filed on Jul. 15, 2010 as U.S. Application No. 12/815,930 and titled "RECONFIGURABLE OPTICAL ADD-DROP MULTIPLEXER WITH SERVO CONTROL AND DYNAMIC SPECTRAL POWER MANAGEMENT CAPABILITIES."
- 3. R2 is a reissue of RE39,397 ("R1") filed on Dec. 31, 2004 and issued Nov. 14, 2006.
- 4. R1 is a reissue of USP 6,625,346 ("'346 Patent") filed on Aug. 31, 2001 and issued Sep. 23, 2003.
- 5. The '346 Patent was filed on Aug. 23, 2001 and issued on Sep. 23, 2003.
- 6. Examiners find the following litigation involving the '678 Patent.
 - Capella Photonics, Inc. v. Tellabs, Inc. 0:14cv60350
 - Capella Photonics, Inc. v. Columbus Networks USA, Inc. 0:14cv61629
 - Capella Photonics, Inc. v. Cisco Systems, Inc. 1:14cv20529
 - Capella Photonics, Inc. v. Ciena Corporation 1:14cv20530
 - Capella Photonics, Inc. v. Fujitsu America, Inc. 1:14cv20531
 - Capella Photonics, Inc. v. Telefonica International Wholesale Services USA 1:14cv22701
 - Capella Photonics, Inc. v. Cisco Systems, Inc. 3:14cv3348
 - Capella Photonics, Inc. v. Fujitsu Network Communications, Inc. 3:14cv3349
 - Capella Photonics, Inc. v. Tellabs, Inc. 3:14cv3350
- 7. Examiners find IPR2015-00726, IPR2015-00727, IPR2015-00731, IPR2015-00739, IPR2015-00816, and IPR2015-00894, which are *Inter Partes* Reviews of the

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'678 Patent that have been merged into IPR2014-01276, which issued a Final Written Decision on Feb. 17, 2016.

- 8. The '678 Patent issued with <u>claims 1-67</u> ("Patented Claims").
- 9. *Inter Partes* Review Certificate (Trial No. IPR2014-01276) was issued on Dec. 10, 2018 cancelling claims 1-4, 9-10, 13, 17, 19-23, 27, 29, 44-46, 53, and 61-65 of the '678 Patent.
- 10. The claim amendments filed October 23, 2019 ("OCTOBER 2019 CLAIM AMENDMENTS"), cancelled patented claims 1-67 and added new claims 68-139, which are grouped as follows:
 - "WSR"
 - claims 68-87 and 135;
 - "Servo-based Optical Apparatus"
 - claims 88-97 and 136;
 - "Optical Apparatus"
 - claims 98-103 and 137;
 - claims 104-110 and 138;
 - claims 111-127 and 139;
 - claims 128-134.

Priority Claims

- 11. Examiners find the instant application is claiming domestic priority under 35 U.S.C. § 119(e) to U.S. App. No. 60/277,217 filed on Mar. 19, 2001.
- 12. Examiners find the instant application does not claim foreign priority.
- 13. In the previous office action, Examiners found the earliest effective filing date for the '368 Patent was Aug. 23, 2001, which is the filing date of the '346 Patent, because of a new matter issue, which has been obviated by the JULY 2019 CLAIM

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AMENDMENTS. In view of the JULY 2019 CLAIM AMENDMENTS, Examiners find the earliest effective filing date of the instant application is Mar. 19, 2001.

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Response to Remarks filed October 23, 2019

- --Defective Reissue Declaration--
- 14. Applicant's statement in the remarks under 37 CFR 1.175(f)(2) has overcome the §251 rejection for a defective reissue declaration (see Remarks pg. 20). Thus, the rejection is withdrawn.
- --Claim Rejections 35 USC § 112--
- 15. The OCTOBER 2019 CLAIM AMENDMENTS have overcome the §112-2nd¶ rejections of claims 75 and 91-92. Thus, the rejections are withdrawn.

Allowable Subject Matter

- 16. As to claims 68-87 and 135, the prior art does not disclose or make obvious "[a] wavelength-separating-routing apparatus comprising ... spatial array of channel micromirrors...to reflect corresponding received spectral channels into any selected ones of said fiber collimator output ports" in combination with the other limitations of the claims.
- As to claims 88-97 and 136, the prior art does not disclose or make obvious "[a] 17. servo-based optical apparatus comprising...spatial array of channel micromirrors...to reflect said spectral channels into selected ones of said fiber collimator outputs" in combination with the other limitations of the claims.
- 18. As to claims 98-103 and 137, the prior art does not disclose or make obvious "An optical apparatus comprising...an array of fiber collimators providing and serving as an input port for a multi-wavelength signal...a spatial array of channel micromirrors...to

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reflect said spectral channels into selected ones of said output ports" in combination with the other limitations of the claims.

Page 5

- 19. As to claims 104-110 and 138, the prior art does not disclose or make obvious "An optical apparatus comprising...an array of fiber collimators providing and serving as an input port for a multi-wavelength signal...from said fiber collimator input port...a spatial array of channel micromirrors...to reflect said spectral channels into selected ones of said output ports" in combination with the other limitations of the claims.
- As to claims 111-127 and 139, the prior art does not disclose or make obvious 20. "[a]n optical system comprising... an array of fiber collimators providing and serving as an input port for a multi-wavelength signal a spatial array of channel micromirrors...from said fiber collimator input port...to reflect corresponding received spectral channels into selected ones of said fiber collimator output ports" in combination with the other limitations of the claims.
- 21. As to claims 128-134, the prior art does not disclose or make obvious "[a] method of performing dynamic wavelength separating and routing, comprising:...receiving a multi-wavelength optical signal from a fiber collimator input port...focusing said spectral channels onto a spatial array of corresponding beam-deflecting elements, whereby each beam-deflecting element receives one of said spectral channels...dynamically and continuously controlling said beam-deflecting elements in two dimensions to direct said spectral channels into selected ones of output ports" in combination with the other limitations of the claims.

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Conclusion

22. Any inquiry concerning this communication or earlier communications from the Examiner, or as to the status of this proceeding, should be directed to Deandra M. Hughes at (571) 272-6982, SPE Andrew Fischer at (571) 272-6779, or the Central Reexamination Unit at (571) 272-7705.

Signed:

/DEANDRA M HUGHES/ Reexamination Specialist, Art Unit 3992

Conferees:

/JAMES A MENEFEE/ Primary Examiner, Art Unit 3992

/HBP/